

If I Only Had Three Eyes!

Jewish Perspectives on Genetic Enhancement

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1. Introduction

Nearly 60 years ago, the Institute of Personality Assessment and Research at the University of California at Berkeley, brought together forty of the most prominent architects in the world to ask them this question: “If man had developed a third arm, where might this arm be attached?”¹ These esteemed professionals debated this provocative idea for nearly an hour. One advocated that it should come out of the top of the head, while another insisted “I think it ought to come right between his shoulder blades, so he can scratch his bottom or his head at will”.

That modern if rather surreal conversation was prompted by curiosity about human creativity; the plausibility or ethics of altering the nature of human nature hardly mattered. But since the know-how and technologies behind this possibility have been dramatically advanced in recent decades, were this idea posed today, concern would be predominantly about its ethical features. The *what* questions like where the third arm should go, and the *how* questions regarding the best way to engineer this additional limb—would fade behind the *why* questions that plumb values, assumptions and goals motivating the idea in the first place. Other probing questions would crop up: why should we alter human morphology at all, as it would perforce change human identity? And, why should we *not* shape ourselves after own imaginations, our own images?

Wondering about a third limb is not new, of course. As we shall see shortly, the idea has been circulating for a long, long time. What is new is its urgency. Today’s incredible technological prowess to cut and paste genetic material empowers humans with the potential to refashion human bodies. No doubt progress will continue to be made and should be made to cut and fix problematic portions of our genes. Such therapeutic interventions have received and will continue to receive broad support.

And yet it is notoriously difficult to define objectively what is genetically problematic or broken. Distinguishing a diseased genetic sequence from a healthy one is no easy task. Indeed, it is often a cultural one, complicated by assumptions about the very constitution of health. For example, some might consider albinism a disease, or deafness or dwarfism, whereas others contest this assessment². Debilitating and mortal genetic conditions like Tay-Sachs and Canavan are often more readily viewed as diseases. Correcting the genetic disorders underlying these diseases continues to be a supported scientific enterprise. The difference, it seems, between disease and health, as well as between therapy and enhancement, is not one of kind but of degree. They exist not in separate and mutually exclusive categories but along blurring spectrums. For this reason, the issue at hand here (pun intended), resides predominantly at the enhancement side of genetic science and biomedicine.

Genetically speaking, enhancing human nature can occur in at least two ways. One ad-

justs the genes of an individual. The other works on germline genes that would impact all subsequent progeny. The pursuit of adding a third limb or, say, a third eye, to human morphology could be done to either an individual already in development, or so that all future children would have this feature. Especially since the 1975 Asilomar conference, contemporary bioethics prohibits meddling with germline genes for enhancement purposes, which thus narrows our question to the ethics of individual genetic enhancement. Specifically, what are the ethics behind articulating the question, “May I enhance myself?”

2. *One Question, Three Eyes*

The power and potential of genetic manipulation have simultaneously worried and inspired Jewish bioethicists. They frequently point to the eugenics movement of the latter part of the nineteenth century and early twentieth century as a pseudo-scientific genetic-manipulation enterprise that sadly lent gravitas to the racialized theories and policies of Nazi Germany³. Such social concerns are counterbalanced by enthusiasm for genetic surgery. For example, Fred Rosner, a leading contemporary Orthodox bioethicist, says, “assuming gene surgery can be successfully performed, it would probably be sanctioned by rabbinic authorities as a legitimate implementation of the physician’s mandate to heal the sick”⁴. He goes on to say that gene therapy of sperm or egg is also permissible because neither is a person. Even a fertilized zygote is not a person—as long as it is not implanted in a womb. Technological interventions upon these biological specimens is permissible, Rosner concludes, as long as it is used “for the treatment, cure, or prevention of disease. Such genetic manipulation is not considered to be a violation of God’s natural law but a legitimate implementation of the biblical mandate to heal”⁵. This reserved

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endorsement of gene therapy is echoed by Conservative and Reform Jewish bioethicists⁶.

But what are Jewish perspectives about genetic enhancement? To illustrate, may I add a third arm or eye? Of course, altering my morphology in such a way will require adjusting my neurology in significant ways. My brain would have to be rewired to accommodate and use this third eye, just as it would for any other additional appendage. And this perforce would dramatically impact the way I encounter the world, the way I experience my own experience of the world, indeed, the way I experience myself. My very identity would be dramatically if not radically different than otherwise. So the question of altering my body by adding to or enhancing it in some way, is not just a physiological or psychological one. It is also existential and theological. It is also an old question. As early as the 3rd Century CE, Jews have wondered about the very permissibility or the ethics of adding limbs and eyes to the human form. There are two major sources in which

this question occurs.

The first source is from *Sifre Devarim*, a 3rd Century collection of aggadic midrashim that closely elucidates verses in Deuteronomy. This selection comments upon the long poem Moses sings at the end of that book just before he dies. Moses declares God’s impeccable perfection and perfectionism: “The Rock, [God’s] works are perfect, and all [God’s] ways are just. A faithful God who does no wrong, upright and just is [God]” (Deuteronomy 32:4). Regarding the insistence that God’s works are perfect, the midrash states:

[God’s] works complete all those in the world; none can ridicule one of [God’s] deeds, even the cause of anything, nor can one wonder of them: Oh if only I had three eyes, Oh if only I had three hands, Oh if only I had three legs, or Oh if I could walk upon my head, or

Oh if I could turn my face behind me—how beneficial it would be for me!⁷

According to this rabbinic source, all that God creates must, by definition, be complete. All is perfect as it is. The very act of wondering whether it could be possible to have an alternate morphology is nothing short of ridiculing the very perfection of God's creativity. And all the more this would be insulting if such human speculation implied that humankind could improve upon God's work. A version of this source redacted about a thousand years later amplifies this position when it says, "[God's] works are complete for all those in the world; none can ridicule one of [God's] characteristics, even change anything, nor about one of them can one wonder: Oh if only I had three eyes..."⁸. Questioning whether humans could improve upon God's creation and/or set about doing so would itself be a way to ridicule one of God's characteristics, specifically God's perfection. It would be slanderous, insulting, perhaps heretical to suggest through one's own curiosity that the nature of nature and the nature of humankind specifically could be altered and improved.

This conservative theocentric attitude is given greater biological if not ecological depth in the thirteenth century, by Rabbi David ben Yosef Abudraham of Spain, who commented on this verse in Deuteronomy:

[God] made for him [that is, mankind] fingernails so he could be distinguished from all other creatures who scratch themselves. [God] made for him feet so he could stand his body erect upon them and come and go from place to place. Behold, all that God created in the man was created only for the needs of the man and for his very existence. And such great wisdom has no compare.⁹

On Abudraham's account, human form and function are divinely forged for humankind's peculiar biological needs. Since humans need to move from place to place, they are given feet for vertical movement. And since humans need to scratch themselves at will, they

are endowed with fingernails, not claws. The coincidence between an organism's biological form and function and its needs is part and parcel of the wisdom of God's creative power. For this reason, Abudraham concludes that wondering how beneficial it might be to have three legs or eyes or face backwards or walk on one's head—is precluded by Moses' assertion that God's works are perfect.

The perfect cannot be improved. No enhancement is possible for the already perfect or completed creature.

The second source offers a slightly more nuanced position. It comes from *Genesis Rabbah*, a collection of homiletical midrashim from around the 4th or 5th Century CE that expands upon the narratives found in the book of Genesis. This particular text weaves together rabbinic teachings on the last words of the first creation story, "These are the generations of the heaven and the earth when they were created" (Genesis 2:4a). The following is attributed to Rabbi Shimon bar Yoḥai, one of the most prominent sages of his generation in 2nd Century Palestine.

This can be compared to a king of flesh and blood who built a palace. The creatures [specifically, people] entered inside it and said, "If the columns were taller it would be [even more] beautiful; if the walls were higher it would be [even more] beautiful; if the ceiling were higher it would be [even more] beautiful." But should a person come and say, "Oh that I had three eyes; Oh that I had three legs—it would be beneficial to me." That would be strange! [Consider:] *That which he had already made him* ('*asehu*) is not written here but instead *That which they had already made him* ('*asuhu*) (Ecclesiastes 2:12). If it were possible to say the King of Kings, the Holy One Blessed be [God], and [God's] court voted upon each and every limb of yours and stood you up in your proper form, it is thus written, *Is this the way you repay Adonai, you foolish and unwise people? Is he not your Father, your Creator, who made you and formed you?* (Deuteronomy 3:26)¹⁰.

Rabbi Shimon bar Yoḥai hereby articulates a strong dichotomy. On his view, what human

kings construct may rightfully be critiqued. It is permissible, perhaps even good, to look upon architecture as well as all other human-made artefacts with some skepticism. Offering suggestions is even welcome. Since human achievements are necessarily imperfect, such criticism ever advances human civilization.

It would be strange, however, to conceive of a counterfactual nature of human nature. This is because of a particular theology of human ontology. According to this theory, God collaborated with the angelic host and they collectively, as if by committee, designed human morphology. Though Ecclesiastes hints that there may have been a plurality of divine designers of human morphology, Moses overrides that idea when he says it was only the singular God, Adonai, who made and formed humans¹¹. Though God may have had input from the divine host, God was the sole final fashioner. And because God is the perfect creator, it would be strange if not foolish to question the nature of what has been created, especially humankind's nature.

This is made even more explicit by Rabbi Tuvia ben Rabbi Eliezer, a twelfth century Greek sage, who expanded upon this midrash. For him, of course it is possible for humans to critique humanly-made edifices, but when it comes to God's creative works, "Who can say this is nice and that is nice? As if a person could say how nice it would be to have three eyes or to change his created form"¹². Critique of the natural world -and labor toward its improvement- is possible and even invited when it comes to humanly manufactured things, but not to the human form, since it is divinely fashioned.

The *Genesis Rabbah* midrash continues on this point, now with a teaching by Rabbi Levi bar Haytha, a third-century Palestinian scholar:

Should a king of flesh and blood build a palace and put its waterspout above its entrance it would not be beneficial. The King of Kings,

the Holy One Blessed be [God], created the human this way by putting his spout above his opening, and this beautifies him and profits him.

Human ingenuity goes only so far. Though we can construct massive edifices and complex structures large and small, our designs will never be as good as God's. Only God's is perfect in regard to both aesthetics (it beautifies the human) and utility (it profits the human). And what is this controversial yet gorgeous and useful spout? According to a thirteenth century version of this midrash, it is the human nose¹³.

Were humans to construct – or design – our own bodies, we would fashion them according to our fickle fancies. We might, for example, place our nose on the backs of our heads, which might improve our smiles but would make blowing our noses a rather gruesome task requiring severe bodily contortions. At least with buildings we can deconstruct them and start afresh when we tire of their form or function.

With human bodies, however, that option does not seem not viable.

And yet, Rabbi Shimon bar Yoḥai was of split mind about the impossibility of improving humankind. According to a different 5th Century source, the Jerusalem Talmud, he said, If I had been at Mount Sinai when the Torah was given to Israel, I would have asked God to create mankind with two mouths, one to talk of the Torah and one to use for all his needs¹⁴.

A later commentator clarified that one mouth would be for sacred things like speaking words of Torah whereas the other would be for eating and drinking¹⁵. Though having two mouths allocated for specific and dramatically different purposes may seem like a more efficient morphology, it nevertheless exposes humankind to unnecessary hazards. Obviously, a person could fixate upon one

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orifice at the expense of the other (like eating and not studying, or studying and not eating), which could lead to serious existential and theological risks. According to the midrash, Shimon bar Yoḥai identified an even more serious danger: “He reconsidered [his suggestion] and said, ‘But the world can hardly survive because of the slander [spoken by each person’s] one [mouth]. It would be far worse if there were two [mouths for each person]”¹⁶.

He understands that two-mouthed humans could heap double the amount of harms, insults and calumny upon persons, creatures and God than the run of the mill single-mouthed humans already do.

Though Rabbi Shimon bar Yoḥai could conceive of a two-mouthed human, he also recognized its potential if not probable downside. What he might consider an ideal human morphology would be in actuality far from it. In this way, Rabbi Shimon bar Yoḥai gives a reason why humans ought not fashion humankind according to its own imaginations: the dangers, whether physical or metaphysical, already inherent in human existence would continue to exist and perhaps be exacerbated. Note that he does not say that it should be prohibited to wonder about alternate human morphology. Rather, his position is that it is far better to cope with and care for our current forms and functions than pursue the fanciful. No matter how much good intention might go into altering the nature of human nature, regardless how much care might be given to the execution of the design, all will not go as planned. Dangers lurk not beneath human ingenuity and flesh, but in them.

3. *Three Eyes, Two Opinions*

These two ancient sources – *Sifrei Devarim* and *Genesis Rabbah* – both worry about wondering about the nature of human nature. For the one, such wonderment is in essence no different than investigating the nature of God’s nature. Insofar as God is perfect, so, too are all God’s creations, and humankind

is no exception in this regard. It would be folly if not chutzpadic to imagine improving upon the already perfected. Whatever character traits we desire are ever to remain just that. Desires, to be desires, must be unattained, indeed, unattainable. Whether it is a third eye or limb, complete comprehension of the cosmos or invisibility or a higher IQ—such enhancements can never be pursued lest we shatter God’s perfect creation and, simultaneously, God’s own perfection. For this perspective, a strong theological commitment precludes scientific pursuit of the possible.

According to the other perspective, however, imagining alternate human morphology, though strange, is no anathema. Such speculation can be entertained yet it must, in the end, be abandoned. One may imagine humans with three eyes or limbs or two mouths, and such fantasies are no slight to God. Rather, it is the pursuit and attainment of such ideas that is fraught with risk. In short, even if such pragmatic labor should be eschewed, theorizing the realm of the possible remains open.

These sources thus provide book end answers to our initial questions¹⁷. Building from the last book of the bible, the *Sifrei Devarim* text suggests that it would be the most heinous form of hubris to pursue lines of inquiry to alter human nature. These would change not only our bodily experiences but also our notions of God as well as our covenantal relation with God. They would, in essence, rupture nature at its most basic, fundamental levels. And from the other end of the bible, the *Genesis Rabbah* source grants permission for imagining and theorizing alternate human morphology and capacity. But it also insists on humility, that our human creativity, while exciting, necessarily entails foreseen and unintended dangers. Shaping ourselves after our own imaginations is an enterprise too risky to merit our effort. For whatever we imagine today as an enhancement could be a disadvantage or disease tomorrow.

This is not to say that we should not be like those mid-century architects wondering where to place that third arm—atop our

heads or between our shoulder blades or elsewhere. Rather, it is to say that, at least from a Judaic vantage point, we should proceed with caution even when theorizing the realm of the possible, and venture down the road of actually building bodies from the code up only if and when we are truly certain that we are fixing something broken.

NOTE

¹ See <http://99percentinvisible.org/episode/the-mind-of-an-architect/>. IPAR is now called the Institute of Personality and Social Research (<http://ipsr.berkeley.edu>).

² See discussion in “On Human Genetic Modification,” CCAR *Responsa* 5768.3. Available at: <https://ccarnet.org/responsa/nyp-no-5768-3/>, accessed August 29, 2016.

³ See, for example, S. GLICK, “Some Jewish Thoughts on Genetic Enhancement,” in E.N. DORFF - L. ZOLOTZ, (Eds.), *Jews and Genes*, The Jewish Publication Society of America, Philadelphia 2015, 243-256. Many other chapters in this book mention the eugenics movement, too.

⁴ F. ROSNER, “The Case for Genetic Engineering,” in *The Torah U-Madda Journal* 9 (2000), 212.

⁵ F. ROSNER, “The Case for Genetic Engineering,” 214.

⁶ See essays in E.N. DORFF - L. ZOLOTZ, as well as the CCAR’s “On Human Genetic Modification.”

⁷ *Sifrei Devarim, Ha’azinu* §307. Another 3rd Century source, *Midrash Tannaim*, Deuteronomy 32:4, has it as “No person in the world may say, ‘Oh if I only had three eyes...’”

⁸ *Yalkut Shimoni, Ha’azinu* (Deuteronomy 32:4).

⁹ SEFER ABUDRAHAM, Birkot HaShahar.

¹⁰ Genesis Rabbah 12.1.

¹¹ The verbs used in that proof-text (Deuteronomy 32:6) are singular, not plural: no one else assisted God in forming humans.

¹² Pesikta Zutarta (Lekah Tov), Kohelet 2.12.

¹³ Yalkut Shimoni, Iyov, 9.14.

¹⁴ Jerusalem Talmud (JT), *Berachot*, 1.2/3b. This is found in both the Venice and Vilna editions.

¹⁵ Vavei Ha’Amudim, ’Amud HaShalom, 25.6.

¹⁶ JT *Berachot*, 1.2/3b.

¹⁷ One source addresses the last words of a dying prophet; the other the final words of (the first) (divine) creation.